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ABSTRACT

This study examined the migration patterns of graduates from southern land-grant universities in an attempt to determine the characteristics of graduates who leave the state where they received the degree and their reasons for moving. The data were collected in 1986-87 by a survey of 1,858 graduates of southern land-grant universities who had participated in a related survey in 1976-77. The survey asked students to describe the relative importance of 16 factors associated with employment. Analysis of Variance (ANOVA) was used to compare the mean score of each reason between migrant graduates and non-migrant graduates. Several findings were: (1) economic earnings were the most important factor for predicting employment migration of graduates, although respondents did not report this to be an important factor; (2) male graduates claimed work characteristics to be an important reason for accepting the first job out-of-state, while those who stayed within the state considered environmental conditions, such as location, more important; and (3) male graduates received higher salaries and benefits than female graduates at the time they entered the work force. Based on the desirability of retention of graduates within the state, employment opportunities need to appear more attractive to the graduate than a job outside the state. This paper includes 14 references and 7 data tables. (KS)

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EMPLOYMENT MIGRATION AMONG GRADUATES OF SOUTHERN LAND-GRANT UNIVERSITIES

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EMPLOYMENT MIGRATION AMONG GRADUATES OF SOUTHERN LAND-GRANT UNIVERSITIES

INTRODUCTION

Demographers who study occupational migration often pose two questions as a starting point: "Who migrates?" "Why do people migrate?" It has been found that more than one half of households moved for job-related reasons (Lewis, 1982; Long, 1988). This study examines the migration patterns of graduates from southern land-grant universities in an attempt to determine which graduates are more likely to leave the state where their degree was received as well as their reasons for moving.

The economic perspective, a dominant approach to employment migration, posits that people migrate in order to improve their economic well-being (Molho, 1986; Rohr-Zanker, 1990). Previous researches can be classified into two categories. One regresses migration rates against a number of economic variables, such as unemployment rates, per capital income and living-cost differences; the other uses data on individuals to explore the relationship between an individual's characteristics and his or her decision to migrate (Bartel, 1979; Cebula, 1979; Mueller, 1982).

One assumption questioned by the economic perspective is that potential migrants are basically homogeneous in skills and information knowledge (Fabricant, 1967). It is obvious, however, that education is associated with income and accessibility of information on job opportunities. A study by Ferriss (1965) examined the migration pattern for persons seeking graduate education and reported that the prospect of job opportunities for professional and technical personnel was a

motivating factor. College graduates are regarded as an appropriate sample to study migration in order to minimize the differences on education and information accessibility (Greenwood, 1973). However, Greenwood's study used macro approach, and studies of migration of college graduates based on individual characteristics are still lacking.

This paper attempts to provide some new insights into employment migration by analyzing personal and work characteristics influencing the probability of college graduates' migration. The basic hypothesis is that graduates move out of state in response to economic and other incentives.

METHODS

The data set for the analysis is the survey conducted in 1986-1987 on Occupational Career of Former Students in Southern Land-grant University. In the 1976-77 academic year, a random sample survey was conducted among agricultural students enrolled in 1862 land-grant universities in eleven Southern states. Beginning in the fall of 1986, a decade after the original surveys, mail questionnaires were sent to persons who participated in the 1976-77 survey. The result was that 73.1 percent of former students who could be located completed the survey. A total of 2,028 students were included in the sample (Thomas and Dunkelberger, 1991).

Of the 2,028 persons in the original survey, career data were available for both first and current jobs for 1,858 persons who graduated. These respondents were divided into four categories: 1) those who had both first and current job in the state where they received their degree; 2) those who had both first and current job outside the state; 3) those whose

first job was within the state but whose current job was outside the state; and 4) those whose first job was outside the state and current jobs was in the state. These data are presented in Table 1.

In order to determine what factors are most influential in decisions to accept the first jobs, either in the state or out of the state, graduates were asked to describe the relative importance of sixteen factors associated with employment. Analysis of Variance (ANOVA) was used to compare the mean score of each reason between migrant graduates and non-migrant graduates. Thompson and Brown (1990) grouped the sixteen factors into four categories in their study: Economic factors; work characteristics; environmental situation, and worker independence. Based on this classification, three index (ECONOM, WORKCH, and ENVIRO) were created, each showing Cronbachs' Alpha at .60 or over for reliability test. BENEFIT is a 13-item index, with Alpha of .80, and used to measure the degree of insurance and fringe benefits first job companies provide. In addition to these indexes, in multiple regression and correlation analyses, AGE2 measures the age of a former student when he or she graduated. For gender, 1 for male graduates and 0 for females.

The dependent variable (MOVE) in our regression model is dichotomous, taking on a value of 1 if a graduate accepted a first job outside the state where he or she received the college degree. In order to estimate the effect of independent variables on a dichotomous dependent variable, logistic regression model should be used (Black, 1983; Walsh, 1987).

RESULTS

Table 1 presents the profile of the geographic locations of graduates. Of 1,858 graduates, 32.6 percent were employed both for their first and current job in the state where their degree was received; 27.6 percent had both first and current jobs outside the state in which they graduated. For 32.2 percent of the graduates, the first job was in the state where their degree was received followed by a move to another state for their current job. Those who accepted first job out of the state and returned to the state where they graduated represented only 7.6 percent of the graduates.

Cross tabulation was used to present the demographic characteristics of both in-state and out-state graduates, and results are showed in Table 2. Generally speaking, male graduates were more likely than female graduates to accept jobs in the state where they graduated; younger and non-married graduates were more likely to work outside the state where they received their degree. Higher income was associated with those graduates who worked out of the state in both first and current jobs.

Data presented in Table 3 show differences between graduates who accepted their first jobs within and outside the state where they graduated in terms of factors which influenced their acceptance of the job. Responses to each factor ranged from 1 (not important) to 5 (very important). It is interesting to note that none of the three economic factors show differences between in-state and out-state job acceptances. This finding was inconsistent with our expectation.

When first job locations were examined in relation to work characteristics factors, most factors are significantly different between

graduates who accepted in-state jobs and those who accepted out-state jobs. It can be found that those who accepted out-state jobs were more likely than those who stayed within the state to consider work characteristics such as challenges (4.08) and importance of work (3.82), chance for advancement (3.64), opportunity to use education (3.75), development of new skills (4.13), and travel (2.24) as more important reasons for their acceptance of first job. With respect to environmental situation associated with the first job, locations of jobs were regarded more important among in-state job acceptant (3.52) than those who left the state for their first jobs (3.04).

No difference concerning pay, benefits and security on first jobs was found between in-state and out-state graduates in their self evaluations. However, when starting annual salary and benefits on their first job was examined, the differences were evident and statistically significant. As shown in Table 4, on average, those who accepted first jobs out of the state received a higher starting salary and better benefits ($14608.9 and 18.7, respectively) than their in-state counterparts ($12549.4 and 17.8, respectively). Also, among those who accepted jobs out of the state, the average months in the first job was 58.4, which was significantly longer than those who remained in the state.

Zero-Order correlations among variables to be used in further multiple regression are presented in Table 5. Consistent with previous findings, starting salary, benefits, work characteristic were significantly related to migration to another state for the first job. Also, age at graduation was positively associated with moving (.07). Stated differently, the older the graduates, the more likely they were to

move to another state for their first jobs.

Furthermore, gender differences were found not only in starting salary (.15) and benefits (.10), but also in the other factors associated with migration. Male graduates considered economic (.09) and work characteristics (.11) as more important reasons for accepting their first job than did female graduates. There is no significant difference between males and females in terms of environmental concern (.01).

It is not surprising to note that economic factors for accepting the first job were positively related to higher starting salary (.26) and better benefit (.38). Also, work characteristic and environmental factors were positively associated with actual economic gains from the jobs. All these relationships were found to be statistically significant.

Results from multiple regression are shown in Table 6. Since the dependent variable (accepted the first job in or out of the state where a graduate received a degree) was dichotomous, logistic regression analyses were used. In Table 6, the "Coeff./S.E." can be interpreted as a t-test (Walsh, 1987). It was found that, in Model 1, work characteristics had a significantly positive impact on migration, while environmental concern was negatively related to the first job moving. More specifically, graduates who regarded environmental condition of the first job as important were more likely to remain in the state where the degree was received, and those who were more concerned about work characteristics were more likely to leave. The results are consistent with what was reported with the previous analyses.

Model 2 in Table 6 presents a regression equation including starting salary and benefit on first job as a measure of actual economic earnings.

After controlling these variables, it can be seen that the effects of work characteristics and environmental concern on migration remain significant. Also, it is interesting to note that, on the one hand, both starting salary and benefit had significantly positive impact on migration, on the other hand, economic reason for moving affected migration negatively. It is clear that there is a major gap between what graduates claimed and what they really earned in terms of economic factor. As shown in Table 7, this gap existed among graduates aged 23 or older but disappeared among those aged 22 or younger. The rationale behind this age distinction might be that graduates aged 23 or older may have previous work experience.

Table 7 further shows the different effects of independent variables on migration between male and female graduates. It was found that work characteristics and environmental condition, which have significant impact on migration among males, did not affect migration among female graduates. Likewise, the effect of benefit on migration become negligible for females.

SUMMARY

To summarize the results:

1. Consistent with previous studies, economic earnings were found to be the most important factor for predicting employment migration of graduates.
2. Work characteristics were claimed to be an important reason for accepting the first job by male graduates who moved out of the state where they received their degrees, while those who stayed within the state considered environmental conditions, such as location of first

job, more important. However, these factors did not influence migration among female graduates.

3. Male graduates received higher salary and benefits than female graduates at the time they entered the work force.

DISCUSSION:

It could be expected that a state prefer to have graduates of its land-grant university remain within the state for employment. Land-grant universities receive a major portion of their support from taxes. Thus, when a student attends school in one state and moves to another state for employment, tax revenue from the employment does not benefit the state where the educational costs were incurred. The objective of this paper was to examine factors which influence the decision to migrate after graduation from college.

Based upon the desirability for retention of graduates within the state, employment opportunities need appear more attractive to the graduate than a job outside the state. Findings indicated that graduates who migrated received higher average starting salary than those who remained within the state. This would tend to suggest that salary is the primary consideration in the decision to migrate. However, using the four criteria proposed by Thompson and Brown (1991) it was found that the expectation of a higher starting salary was not the most significant factor reported by the graduates as the reason for the decision to migrate. Respondents indicated that work characteristics were a more important factor in their decision than were economic factors, the environment, or independence of the work assignment. Thus, there appears

to be a discrepancy between what the graduate describes as the most important factor in a migration decision and the actual situation.

What may be the answer to this apparent discrepancy is that the graduate seeks work characteristics which best fit skills, abilities, and desires. The salary, while not described by the graduate as key to the decision, tends to be higher because it provides a better match with work related characteristics and the skills the new worker brings to the job.

While this report examines the movement out-of-state for employment, it is evident that some of the out migration is replaced by in migration of graduates from academic institutions in other states. This migrant flow is not included in the present report.

Another factor that was not examined by the present study was the possibility that over production might necessitate the out-migration of graduates from the state where they received their degree. In a study of students for Ph.D. degrees, Ferriss (1973) found that students seeking doctoral degrees tended to move from states with lesser educational development to states with higher educational development. However, when the student received the doctoral degree, migration tended to flow in the opposite direction. Following this logic, the greater the number of degrees granted in a state in relation to available positions, the lower the retention rate for that state. Whether the same was true for those who receive undergraduate degrees might prove to be a factor to explain for migration of college graduates.

The present study might be viewed as an extension of Ferriss' (1973) work. While the availability of job opportunities remains essential to the prediction of migration, individual characteristics of the job

constitute a further dimension. An adequate theory of migration among college graduates requires the incorporation of both.

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Table 1

Percentage Distribution of Graduates According to Four Migration Patterns

Graduates	N	%
Both first and current job in-state	605	32.6
Both first and current job out-state	513	27.6
First job in-state and current job out-state	599	32.2
First job out-state and current job in-state	141	7.6
Total	1858	100.0

Table 2

Percentage Distribution of Demographic Characteristics of Graduates With In-State or Out-State First or Current Jobs

Characteristic	First Job		Current Job	
	In-state	Out-state	In-state	Out-state
Gender				
Male	64.2	35.8	41.5*	58.5*
	(893)	(498)	(577)	(814)
Female	66.5	33.5	36.3*	63.7*
	(310)	(156)	(169)	(297)
Age in 1986				
27-28	59.5	40.5	33.9*	66.1*
	(144)	(98)	(82)	(160)
29-30	63.5	36.5	38.2*	61.8*
	(497)	(286)	(299)	(484)
31-32	67.6	32.4	43.6*	56.4*
	(423)	(203)	(273)	(353)
33 or over	67.6	32.4	44.4*	55.6*
	(140)	(67)	(92)	(115)
Marital Status				
Currently married	66.7***	33.3***	40.7	59.3
	(918)	(459)	(561)	(816)
No longer married	63.6***	36.4***	41.9	58.1
	(199)	(114)	(131)	(182)
Never married	51.2***	48.8***	32.5	67.5
	(85)	(81)	(54)	(112)
Income				
$15000	67.9**	32.1**	29.5***	70.5***
	(214)	(101)	(93)	(222)
$25000	68.9**	31.1**	46.4***	53.6***
	(436)	(197)	(294)	(339)
$35000	61.4**	38.6**	37.8***	62.2***
	(325)	(204)	(200)	(329)
$50000	61.6**	38.4**	43.0***	57.0***
	(162)	(101)	(113)	(150)
$50000 or more	56.8**	43.2**	39.0***	61.0***
	(67)	(51)	(46)	(72)
Total N	1204	654	746	1112

* $P < .05$
** $P < .01$
*** $P < .001$

Table 3

Comparison of Mean Importance Scores in Accepting First Job
In-State and Out-State Among Graduates

Factors	In-State	Out-State	Grand Mean	F Singnificance
ECONOMIC FACTORS:				
Pay	2.69	2.76	2.72	.264
Fringe benefits	2.54	2.63	2.57	.202
Security of job	3.07	3.02	3.05	.448
WORK CHARACTERISTICS:				
Challenges of work	3.76	4.08	3.87	.000
Importance of work	3.50	3.82	3.61	.000
Chance for advancement	3.29	3.64	3.41	.000
Opportunity to use my education	3.54	3.75	3.61	.004
Opportunity to develop new skills	3.83	4.13	3.94	.000
Respect people have for this kind of work	2.63	2.66	2.64	.642
Opportunity to travel	1.83	2.24	1.97	.000
ENVIRONMENTAL SITUATION:				
Working conditions	3.23	3.32	3.26	.159
Good work associates	2.99	3.14	3.05	.039
Job as a whole	3.72	4.01	3.82	.000
Location of job	3.52	3.04	3.35	.000
WORKER INDEPENDENCE:				
Chance to be boss	2.38	2.29	2.35	.194
Amounts of supervision	2.67	2.68	2.67	.970

Table 4

Comparison of Group Means in Starting Salary, Benefit, and Months of Employed in First Job Between In-State and Out-State Graduates

	In-State	Out-State	Grand Mean	F Singnificance
Starting salary	12549.4	14608.9	13267.7	.000
Insurance & benefit	17.8	18.7	18.1	.000
Months of employed	37.1	58.4	44.7	.000

Table 5

Correlation Coefficients Among Selected Variables

Variable	1	2	3	4	5	6	7
1.MOVE	1.00						
2.AGE2	.07**						
3.GENDER	.02	.00					
4.ECONOM	.01	.01	.09***				
5.WORKCH	.14***	.07*	.11***	.31***			
6.ENVIRO	.01	.05*	.01	.30***	.53***		
7.SALARY	.18***	.19***	.15***	.26***	.21***	.12***	
8.BENEFIT	.13***	.04	.10***	.38***	.25***	.10***	.22***

Note:
* $p < .05$
** $p < .01$
*** $p < .001$

Table 6

Logit Regression Coefficients of Migration By Starting Salary, Benefit, and Job-Related Reasons Among Graguates

Factors	Model 1		Model 2	
	Regression Coeff. (Standard Error)	Coeff./S.E.	Regression Coeff. (Standard Error)	Coeff./S.E.
ECONOM	-.00405 (.00823)	-0.492	-.02801 (.00968)	-2.893*
WORKCH	.03560 (.00508)	7.011*	.03013 (.00564)	5.344*
ENVIRO	-.02225 (.00627)	-3.551*	-.01946 (.00684)	-2.847*
SALARY			.00003 (.00001)	6.358*
BENEFIT			.03225 (.00988)	3.263*

* Statistically Significant

Table 7

Logit Regression Coefficients of Migration By Starting Salary, Benefit, and Job-Related Reasons Among Graguates, Controlling Gender and Age

Factors	Regression Coeff. (Standard Error)	Coeff./S.E.	Regression Coeff. (Standard Error)	Coeff./S.E.
	Males		Females	
ECONOM	-.02272 (.01102)	-2.061*	-.05122 (.02104)	-2.434*
WORKCH	.03741 (.00666)	5.618*	.01438 (.01106)	1.300
ENVIRO	-.02154 (.00785)	-2.742*	-.01414 (.01436)	-0.985
SALARY	.00004 (.00001)	6.038*	.00003 (.00001)	2.438*
BENEFIT	.04209 (.01133)	3.714*	-.00179 (.02115)	-0.085
	Ages of 22 or younger		Ages of 23 or older	
ECONOM	-.00553 (.01793)	-0.309	-.04223 (.01542)	-2.738*
WORKCH	.03241 (.00969)	3.343*	.02468 (.00897)	2.753*
ENVIRO	-.02393 (.01201)	-1.993	-.00489 (.01088)	-0.449
SALARY	.0003 (.0001)	2.618*	.00004 (.00001)	4.745*
BENEFIT	.02213 (.01739)	1.273	.03254 (.01593)	2.043*

* Statistically significant